Starting ARNI on admission vs outpatient had no significant differences in adverse events (death 25% vs 30% p = 1; HF death 12.5% vs 30% p = 1; HF hospitalization 25% vs 46% p = 0.271; ACS 12.5 % vs 0% p = 0.381; VA 12.5% vs 0% p = 0.381).
Conclusions: ARNI administration during hospitalization for acute myocardial infarction with LVEF ≤40% and HF was infrequent. Its administration was safe during hospital admission and no difference with regard to the outpatient start. Its use showed in our population a non-statistically significant trend towards less death from any cause and the appearance of the combined event of death and / or HF hospitalization and / or ACS and / or VA.

Revascularisation

Angiographical characteristics of patients with acute myocardial infarction complicated by acute high-grade heart failure

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Aim of the study: To increase the effectiveness of diagnosis and treatment of acute heart failure (AHF) among patients with acute myocardial infarction (AMI) complicated by high-grade AHF (Killip III and Killip IV)
Research methods: It was conducted a retrospective analysis of 828 hospital charts of patients treated for AMI at the Department of AMI of the VRCCP. Among them, there were 534 (64.5%) men, their average age was (63.5 ± 0.45) years and 294 (35.5%) women, their average age was (69.2 ± 0.53) years. Urgent coronary angiography was performed on 484 (55%) patients, urgent percutaneous coronary interventions were performed on 442 (50.2%) patients. They were 410 patients (92.8%) who underwent coronary artery stenting (CAS), 18 (4.1%) patients who underwent thrombus aspiration, 2 patients (0.5%) who underwent angioplasty of the coronary artery without CAS, 24 patients who got prehospital thrombolysis and inter them 12 cases (2.7%) underwent implantation of the stent system and 12 (2.5%) patients who did not require CAS.
Conclusions: It was found that among patients with AMI, signs of high-grade AHF were identified in 129 (15.6%) patients (Group I), in 699 (84.4%) patients AMI was not complicated by high-grade AHF (group II). Amongst patients of group I there were 65 men (50.4%) their average age was (65.3 ± 1.4) years and there were 64 (49.6%) women, their average age was (73.5 ± 1.5) years. There were 469 (67.1%) men their average age was (61.5 ± 0.87) and there were 230 (32.9%) women their average age was (68.1 ± 0.93) years among patients from group II.
According to the CAG analysis, it was observed that in the general group of patients with AMI single vascular disease (SVD) of CA was found in 52.8% of patients, in 29.3% two vascular disease (TVD) of CA and in 17.9% - multivascular disease (MVD) of CA. In group I, the division of patients due to coronary artery disease was similar: 57.2% - SVD, 27.6% - TVD and 15.2% - MVD. In the second group there was the assignment according to the results of CAG: in 30.7% there was SVD, in 37.3% there was TVD and in 32% there was MVD. There was a significant increase of the number of patients with TVD and MVD.
Analyzing the mortality in groups I and II, it was found that among patients of group I with a SVD of CA mortality was 3.7%, with TVD was 2.9%, and with MVD was 3.4%. Midst patients of group II mortality was significantly higher: 17.4% among patients with OVD, 35.7% - with TVD and 37.5% among patients with MVD of CA.
Results: According to a retrospective analysis, the incidence of high-grade acute heart failure (Killip III and Killip IV) among patients with AMI is 15.6%. Among patients with AMI, which is complicated by AHF, there are more often TVD and MVD of the CA. The availability of AHF is associated with severe course of the disease, re-hospitalization and increased mortality.

Should we adapt guideline-oriented treatment of acute myocardial infarction in older patients?

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Background: Older patients (OP) with acute myocardial infarction (AMI) present more frequently with non-typical symptoms. Although age is a predictor of in-hospital and 6-month mortality in AMI, it is recommended to apply the same interventional strategies in OP as for younger patients (YP).
Purpose: To determine if OP have different characteristics in presentation, symptoms, treatment and outcomes of AMI.
Methods: We developed a prospective 7-month study, including all patients admitted in the Cardiology Department of our institution due to type-1 AMI. The work consisted of an interview to all patients within the first 48h of admission and consultation of their medical records. We divided the patients in 2 groups for comparison: older (≥65 years) and younger patients.
Results: 194 patients were included in our cohort and 89 (45.9%) were OP, most commonly male (68.5%). OP demonstrated a significantly higher prevalence of cardiovascular risk factors (CVRF), such as hypertension (p < 0.001), smoking history (p < 0.001) and type 2 diabetes mellitus (p < 0.001). Older age was linked to history of significative coronary artery disease (p = 0.001) and AMI (p = 0.006).
Typical and atypical chest pain, as well as it's intensity, was similar between the two groups. Older age was not associated with more accompanying symptoms, except for dyspnea (28.1%, p = 0.031).
Coronary angiography was equally performed and older age was associated with a significantly higher proportion of left main or multivessel disease (p = 0.003) and more revascularization procedures (p < 0.001), particularly percutaneous coronary intervention (PCI) (p < 0.001).
OP developed more overall AMI-complications (37.1%, p = 0.003), particularly Killip classification ≥2 (30.3%, p = 0.008), longer hospital stays (OP: 9±1 vs YP: 7±1 days) and mortality (5.6%, p = 0.005). There was no death registered in the younger group.
Conclusion: Older age was associated with higher revascularization procedures but worse outcomes, particularly longer hospital stay and mortality. We believe that treatment of AMI in OP should be revised in guidelines and adapted to the inherent characteristics of this population.

Baseline NT-proBNP levels predict 1-year mortality in patients undergoing contemporary percutaneous coronary intervention of chronic total occlusions - a prospective observational study

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Introduction: Percutaneous coronary intervention (PCI) of chronic total occlusions (CTO) is an advanced procedure that provides long term clinical benefits. However, the impact of successful CTO revascularization on survival remains unclear and accurate risk stratification challenging. Therefore, we evaluated the predictive value of N-terminal pro-brain natriuretic peptide (NT-proBNP) on mortality in CTO patients undergoing CTO PCI.
Methods: In this prospective observational study, patients undergoing CTO PCI were consecutively enrolled at a university-affiliated tertiary care centre over a three-year period (2018-2020). Technical success was defined as successful restoration of angiographically assessed TIMI-3 flow after PCI attempt. Statistical correlation analyses for baseline parameters and primary endpoint were calculated using cox regression. 1-year follow-up was presented using Kaplan-Maier plot.

Variable	Total n=179	Successful PCI n=150 (83.8)	Failed PCI n=29 (16.2)	p-Value
Female	34 (19)	27 (18)	7(24.1)	.440
Age	68.51+11.26	67.99+11.43	71.21+10.12	.160
Diabetes	68 (38)	55 (36.7)	13 (44.8)	.407
COPD	27 (15.1)	18 (12)	9(31)	**.019**
Prior CABG	28 (15.6)	21 (14)	7(24.1)	.169
Heart failure	33 (18.4)	26 (17.3)	7(24.1)	.387
LVEF (%)	48.1±9.82	48.86±9.53	44.19±10.53	**.032**
J-CTO score	1.62±1.21	1.50±1.15	2.24±1.32	**.002**
NT-proBNP (pg/ml)	1417±2382	1321±2156	1967±3423	.241
LDL (mg/dl)	68.6±36.2	69.3±34.2	65.6±45.2	.645

Table 1: Baseline and procedural profile

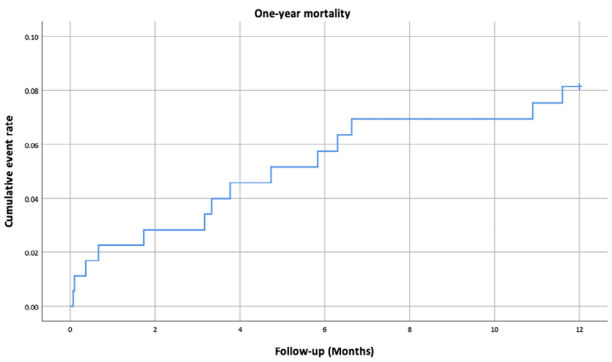

Table 2: Kaplan-Meier plot